



DEPARTMENT OF THE AIR FORCE
75TH CIVIL ENGINEER GROUP (AFMC)
HILL AIR FORCE BASE UTAH

original
Att: Joel K.

30 October 2012

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UTAH DEPARTMENT OF
ENVIRONMENTAL QUALITY

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DIVISION OF AIR QUALITY

Public Comment
R307-355 Control of Emissions from Aerospace Manufacture and Rework Facilities
Utah Division of Air Quality
P.O. Box 144820
Salt Lake City Utah 84114-4820

Mr. Karmazyn

Hill Air Force Base appreciates the opportunity to comment on the proposed new rule R307-355 Control of Emissions from Aerospace Manufacture and Rework Facilities (Rule). It is the commitment of the U.S. Air Force Air Quality Program to protect public health, our workforce, and the environment from harmful pollutants while sustaining the war fighter mission. This commitment involves implementing innovative technologies to prevent and reduce emissions, which is vital to protecting the environment and our community.

1. Applicability threshold is inconsistent with Aerospace Control Technology Guideline (CTG) recommended threshold.

Comment

Utah's proposed PM 2.5 SIP rules are consistent with CTG recommendations, except for the proposed new rule R307-355.

Discussion

The Aerospace CTG identifies presumptive Reasonably Achievable Control Technology (RACT) for controlling VOC emissions from aerospace coatings and cleaning solvents. "(Aerospace CTG) has been developed for affected sources in areas of moderate, serious, or severe nonattainment that have the potential to emit greater than or equal to 25 tons per year of VOCs." The applicability threshold of R307-355 should be changed from 5 tons or more per year of VOC to 25 tons or more per year of VOC.

Recommended Change From Five Tons to 25 Tons.

R307-355-2 Applicability

R307-355 applies to all aerospace manufacture and rework facilities that have the potential to emit ~~five~~ **25** tons or more per year of VOCs and that are located in Box Elder, Cache, Davis, Salt Lake, Utah, Tooele and Weber counties.

2. VOC limit for chemical milling maskants.

Comment

The Aerospace CTG defines chemical milling maskant as a coating that is applied directly to components to protect surface areas when chemical milling the component with a Type I or II etchant. The Aerospace CTG also denotes that maskants defined as specialty coatings are not included under this definition.

Discussion

R307-355-5. Emission Standards

(c) Each owner or operator shall not apply specialty coatings with a VOC content in excess of the amounts specified in EPA-453/R-97-004, hereby incorporated by reference or shall use an add-on control device as specified in R307-355-9.

By reference the Aerospace CTG has limits for specialty coating maskants: bonding maskant, critical use and line sealer maskant, and seal coat maskant. We believe that, in general, a maskant should not be interpreted to be a primer subject to primer VOC limits.

No Recommended Change, Comment Provided for the Record.

3. Overall control efficiency is inconsistent with other industrial categories and the Aerospace CTG.

Comment

The Aerospace CTG recommends combined VOC emissions capture and control equipment efficiency of at least 81 percent by weight with approved air pollution control equipment. The control efficiency in R307-355 should be consistent with the CTG.

Discussion

The Aerospace CTG recognizes the difficulty of achieving high capture efficiencies with the very dilute VOC concentrations in aircraft paint hangars, which are typically much larger than paint booths or capture hoods used in other industries. Hill AFB conducts operations in aircraft paint hangers and would not be able to meet 95% control efficiency and is requesting the UDAQ revise the removal efficiency requirement of R307-355-9 from 95% to 81% to be consistent with the CTG.

Recommended Change From 95% Efficiency to 81% Efficiency.

R307-355-9. Optional Add-On Controls.

(1) The owner or operator may install and maintain an incinerator, carbon adsorption, or any other add-on emission control device, provided that the emission control device will attain at least 95% **81%** efficiency performance.

4. Include the Aerospace CTG presumptive RACT exemptions.

Comment

The Aerospace CTG has industry specific situations exempt from presumptive RACT. R307-355 should include these exemptions.

Discussion

The Aerospace CTG denotes the following applications are exempt from VOC content limits:

- Touchup and repair operations.
- Use of hand-held spray can application method.

These exemptions should be added to R307-355-6 to be consistent with the Aerospace CTG.

Recommended Change to Add the Aerospace CTG exemptions.

R307-355-6. Application Method.

(2) The following conditions are exempt from R307-355-6(1):

(e) Use of hand-held spray can application method.

5. Timeframe for Repair to Enclosed Spray Gun Cleaner is inconsistent with the Aerospace CTG.

Comment

Enclosed paint spray gun cleaners are used to clean spray guns at the end of every job and between paint changes. R307-355 spray gun cleaner requirements need to be consistent with the Aerospace CTG requirements.

Discussion

The Aerospace CTG identifies that enclosed paint spray gun cleaners eliminate most of the exposure of the cleaning solvent to the air, thereby greatly reducing the VOC emissions from evaporation. The CTG also notes that leaks from enclosed spray gun cleaners be repaired no later than 15 days from when the leak is first discovered and if the leak is not repaired by the 15th day after detection, the cleaning solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued. UDAQ should revise the proposed rule to be consistent with the Aerospace CTG.

Recommended Change from 48 Hours to 15 Days.

R307-355-8. Solvent Cleaning

(3) Spray gun cleaning. All spray guns shall be cleaned by one or more of the following methods:

(a) Enclosed system that is closed at all times except when inserting or removing the spray gun. If leaks in the system are found, repairs shall be made as soon as practicable, but no later than ~~48 hours~~ **15 days** after the leak was found. If the leak is not repaired by the ~~48 hours~~ **15th day** after detection, the cleaning solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

6. Include all of the Aerospace CTG hand-wipe solvent cleaning exemptions.

Comment

The Aerospace CTG hand-wipe cleaning exemptions for specific cleaning activities need to be added to the proposed new rule R307-355.

Discussion

The Aerospace CTG defines hand-wipe cleaning operations and clearly defines the use of cleaning solvents which are aqueous or have a VOC composite vapor pressure less than or equal to 45 millimeters of mercury (mm Hg) at 20°C. The CTG also provides exemptions for thirteen cleaning activities that can be conducted using solvents with composite vapor pressures that exceed 45 mm Hg at 20°C. Hill AFB conducts many of these operations and must use solvents with higher vapor pressures to meet DoD requirements. The CTG exemptions need to be added to the rule or Hill AFB will experience a work stoppage.

Recommended Change to Add All 13 Hand-Wipe Exemptions Verbatim from the Aerospace CTG.

R307-355-8. Solvent Cleaning

(1) Hand-wipe cleaning. Cleaning solvents used in hand-wipe cleaning operations shall have a VOC composite vapor pressure less than or equal to 45 mm Hg at 68 degrees Fahrenheit or an aqueous cleaning solvent in which water is at least 80% of the solvent as applied.

The following cleaning operations are exempt from the cleaning solvent composition and vapor pressure requirements for hand-wipe cleaning:

- (a) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;**
- (b) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);**
- (c) Cleaning and surface activation prior to adhesive bonding;**
- (d) Cleaning of electronics and assemblies containing electronics;**
- (e) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;**
- (f) Cleaning of fuel cells, fuel tanks, and confined spaces;**
- (g) Surface cleaning of solar cells, coated optics, and thermal control surfaces;**
- (h) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used on the interior of the aircraft;**
- (i) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;**
- (j) Cleaning of aircraft transparencies, polycarbonates, or glass substrates;**
- (k) Cleaning and cleaning solvent usage associated with research and development, quality control, or laboratory testing;**
- (l) Cleaning operations, using nonflammable liquids, conducted within five feet of energized electrical systems. Energized electrical systems means any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells, and tail sections; and**
- (m) Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR § 82.4.**

7. Include all of the Aerospace CTG space vehicle and antique aerospace vehicle and component exemptions.

Comment

The Aerospace CTG exempts space vehicles and rework on antique aerospace vehicles and components and should be exempt in the proposed new rule R307-355.

Discussion

The proposed new rule R307-355 exempts coatings used on space vehicles from the VOC content requirements only and has no exemption for antique aerospace vehicles. The presumptive RACT requirements of the Aerospace CTG do not apply to manufacturing or rework operations involving space vehicles or rework operations performed on antique aerospace vehicles or components.

The Aerospace NESHAP exempts certain cleaning operations. Regulated activities include those associated with space vehicles designed to travel beyond the limit of the earth's atmosphere, including but not limited to satellites, space stations, and the Space Shuttle System (including orbiter, external tanks, and solid rocket boosters).

The Hill Aerospace Museum is located at Hill Air Force Base and houses many unique and historical aircraft requiring maintenance and preservation. Museum staff and volunteers perform the necessary restoration work in-house and through an Adopt-A-Plane program. The Museum preserves a wide variety of antique aircraft and holds these objects in the public trust for the benefit, education, and enjoyment of future generations.

Recommended Changes to Add Space Vehicle and Antique Aerospace Vehicle and Component Exemptions.

R307-355-3. Exemptions.

R307-355 does not apply to manufacturing or rework operations involving space vehicles or rework operations performed on antique aerospace vehicles or components. Operations are associated with space vehicles designed to travel beyond the limit of the earth's atmosphere, including but not limited to satellites and space stations.

R307-355-4. Definitions.

"Antique aerospace vehicles or components - An aircraft or component thereof that was built at least thirty (30) years ago. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

8. All Coating VOC Limitations Need to be Less Water and Less Exempt Solvent.

Comment

The Aerospace CTG defines VOC limitations to exclude water and exempt solvents.

Discussion

The standard method to calculate coating VOC content excludes water and any exempt solvents. The draft of R307-355 only excludes water and should also exclude exempt solvents in the calculation of VOC for compliance demonstration.

Recommended Changes Regarding Coating VOC Limitation to Exclude Water and Exempt Solvents.

R307-355-5. Emission Standards.

(a) 2.9 pounds per gallon of coating, excluding water **and exempt solvents**, delivered to a coating applicator that applies primers. For general aviation rework facilities, the VOC

limitation shall be 4.5 pounds per gallon of coating, excluding water **and exempt solvents**, delivered to a coating applicator that applies primers;

(b) 3.5 pounds per gallon of coating, excluding water **and exempt solvents**, delivered to a coating applicator that applies topcoats (including self-priming topcoats).

9. Include Aerospace NESHAP Exemptions for Aerospace Equipment Intended for Public Display and for Primers and Topcoats Containing Low Hazardous Air Pollutant and VOC Concentrations.

Comment

The Aerospace NESHAP exempts aerospace equipment that is no longer operational, intended for public display and not easily capable of being moved.

The Aerospace NESHAP exempts primers and topcoats containing HAP and VOC at concentrations less than 0.1 percent for carcinogens or 1.0 percent for noncarcinogens, as determined from manufacturer's representations, vehicles or components.

Discussion

The Aerospace NESHAP requirements are codified in 40 CFR 63 Subpart GG. While the Aerospace NESHAP is a HAP rule, it regulates VOC as a surrogate for HAP. In the development of the NESHAP it was determined that operations with equipment intended for public display and low HAP and VOC content materials would not have a significant contribution from Aerospace operations and the cost of control would not be warranted.

Recommended Change to Add Aerospace NESHAP Exemptions

R307-355-3. Exemptions.

R307-355 does not apply to aerospace equipment that is no longer operational, intended for public display and not easily capable of being moved.

R307-355 does not apply to primers and topcoats containing HAP and VOC at concentrations less than 0.1 percent for carcinogens or 1.0 percent for noncarcinogens, as determined from manufacturer's representations, vehicles or components.

10. Allow primer and topcoat coatings to be applied by brush, cotton-tipped swab application, electrodeposition (dip) coating, and other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods, as determined according to the requirements in 40 CFR 63.750(i).

Comment

Aerospace CTG presumptive RACT for primer and topcoat (including self-priming topcoats) application equipment used on aerospace components and vehicles is based on current practices and requirements. These practices should be included in R307-355.

Discussion

The Aerospace CTG provides feasible RACT control measures for VOC source categories such as allowing primer and topcoat coatings to be applied by brush, cotton-tipped swab application, and electrodeposition (dip) coating. R307-355 should also allow these types of coating application methods to be consistent with the Aerospace CTG and standard industry practices.

Recommended Change to Add Application Equipment from the Aerospace CTG

R307-355-6. Application Method.

(1) No owner or operator shall apply any primer or topcoat unless the primer and topcoat is applied with equipment operated according to the equipment manufacturer specifications or by the use of one of the following methods:

(a) Electrostatic application;

(b) Flow/curtain coat;

(c) Dip/electrodeposition coat;

(d) Roll coat;

(e) Brush coating;

(f) Cotton-tipped swab application;

(g) High-Volume, Low-Pressure (HVLV) Spray;

(h) Hand application methods; or

(i) Other coating application methods that achieve emission reductions equivalent to HVLV or electrostatic spray application methods, **as determined according to the requirements in 40 CFR 63.750(i).**

11. R307-355-7 Work Practices Duplication.

Comment

R307-355-7 Work Practices and Recordkeeping 2(a) through (d) nearly identical to 1(a) through (d).

Discussion

Work practices are duplicated in R307-355-7.

Recommended Change

R307-355-7. Work Practices and Recordkeeping

~~(2) The work practices for cleaning materials shall be implemented at all times to reduce VOC emissions from fugitive type sources. The work practices shall include, but are not limited to:~~

~~(a) Storing all VOC-containing cleaning materials in closed containers;~~

~~(b) Ensuring that storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials;~~

~~(c) Minimizing spills of VOC-containing cleaning materials;~~

~~(d) Conveying VOC-containing cleaning materials from one location to another in closed container or pipes.~~

12. R307-355-7 Work Practices and Recordkeeping. Item (4); Change From Table 1 To EPA-453/R-97-004, December 1997, Table 4-1, hereby incorporated by reference.

Comment

R307-355-7 Work Practices and Recordkeeping reference to Table 1 needs to be clarified.

Discussion

Table 1 is not referenced in R307-355.

Recommended Change

R307-355-7 Work Practices and Recordkeeping.

(4) The owner or operator shall maintain records of coatings listed in Table 4-1 EPA-453/R-97-004, December 1997, Table 4-1, hereby incorporated by reference with coating usage on an annual basis.

13. The Aerospace NESHAP Allows the Use of Certain Hydrocarbon-based Solvents For Hand-wipe Cleaning of Aerospace Vehicles or Components.

Comment

Allow the use of hydrocarbon-based solvents which are cleaners that are composed of photochemically reactive hydrocarbons and/ oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 deg C (3.75 in. H₂O and 68 deg F) (These cleaners also contain no HAP).

Allow for demonstration that the volume of hand-wipe solvents used in cleaning operations has been reduced by at least 60% from a baseline adjusted for production. The baseline shall be established as part of an approved alternative plan administered by the Utah Division of Air Quality Director.

Discussion

40 CFR 63.744(a) Aerospace NESHAP standards for cleaning operations define certain cleaning solvents which contain HAP and VOC below the de minimis levels specified in 40 CFR 63.741(f). While the Aerospace NESHAP is a HAP rule, it regulates VOC as a surrogate for HAP. The Aerospace NESHAP provides additional compliance options for solvent cleaning operations that should be included in R307-355 to provide Aerospace facilities with additional flexibility. As these compliance options are allowed in the Aerospace NESHAP in addition to those specified in the draft of R307-355, they should provide the same level of control.

Recommended Change to Add to R307-355-8. Solvent Cleaning.

(c) hydrocarbon-based solvents which are cleaners that are composed of photochemically reactive hydrocarbons and/ oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 deg C (3.75 in. H₂O and 68 deg F)(These cleaners also contain no HAP); or

(d) demonstrate that the volume of hand-wipe solvents used in cleaning operations has been reduced by at least 60% from a baseline adjusted for production (baseline shall be established as part of an approved alternative plan administered by the Utah Division of Air Quality Director).

14. Include Aerospace NESHAP exemption for cleaning of nozzle tips of automated spray equipment systems.

Comment

40 CFR 63.744(c)(5) Aerospace NESHAP standards for cleaning operations allow cleaning of nozzle tips of automated spray equipment systems.

Discussion

To be consistent with Aerospace NESHAP requirements, the proposed new R307-355 rules need not apply to the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems.

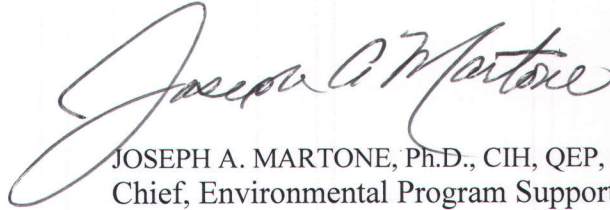
Recommended Change to Add to R307-355-8. Solvent Cleaning. (3) Spray gun cleaning. (b) Nonatomized Cleaning.

R307-355-8. Solvent Cleaning

(3)(e) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems that can be programmed to spray into a closed container, shall be exempt from these requirements.

If you have any questions or would like to discuss this issue further, my point of contact is Mr. Glenn Palmer 75 CEG/CEVC, at (801) 775-6918 or glenn.palmer@hill.af.mil.

Sincerely

A handwritten signature in cursive script, reading "Joseph A. Martone".

JOSEPH A. MARTONE, Ph.D., CIH, QEP, GS-13.DAF
Chief, Environmental Program Support Branch
Environmental Management Division
75th Civil Engineer Group

Attachment

R307-355 Track Change Comments

Attachment - Track Change Comments

R307. Environmental Quality, Air Quality.

R307-355. Control of Emissions from Aerospace Manufacture and Rework Facilities.

R307-355-1. Purpose.

The purpose of R307-355 is to limit the emissions of volatile organic compounds (VOCs) from aerospace coatings and adhesives, from organic solvent cleaning, and from the storage and disposal of solvents and waste solvent materials associated with the use of aerospace coatings and adhesives.

R307-355-2. Applicability. R307-355 applies to all aerospace manufacture and rework facilities that have the potential to emit ~~five~~25 tons or more per year of VOCs and that are located in Box Elder, Cache, Davis, Salt Lake, Utah, Tooele and Weber counties.

R307-355-3. Exemptions. R307-355 does not apply where cleaning and coating takes place in research and development, quality control, laboratory testing and electronic parts and assemblies, except for cleaning and coating of completed assemblies.

R307-355 does not apply to manufacturing or rework operations involving space vehicles or rework operations performed on antique aerospace vehicles or components. Operations are associated with space vehicles designed to travel beyond the limit of the earth's atmosphere, including but not limited to satellites and space stations.

R307-355 does not apply to:

(a) Department of Defense classified coatings.

(b) Facilities that use separate formulations in volumes of less than 50 gallons per year subject to a maximum exemption of 200 gallons total for such formulations applied annually.

(c) Aerospace equipment that is no longer operational, intended for public display, and not easily capable of being moved; or

(d) Primers and topcoats containing HAP and VOC at concentrations less than 0.1 percent for carcinogens or 1.0 percent for noncarcinogens, as determined from manufacturer's representations, vehicles or components.

R307-355-4. Definitions. The following additional definitions apply to R307-355:

"Aerospace manufacture" and "rework facility" means any installation that produces, reworks, or repairs in any amount any commercial, civil, or military aerospace vehicle or component. "Specialty coating" means specialty coating as defined in 40 CFR 63 subpart GG, Appendix A, which is incorporated by reference.

"Antique aerospace vehicle or component - An aircraft or component thereof that was built at least thirty (30) years ago. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

"Topcoat" means a coating that is applied over a primer or component for appearance, identification, camouflage, or protection. Topcoats that are defined as specialty coatings are not included under this definition.

R307-355-5. Emission Standards.

(1) No person shall cause, permit, or allow the emissions of VOCs from the coating of aerospace vehicles or components to exceed:

- (a) 2.9 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies primers. For general aviation rework facilities, the VOC limitation shall be 4.5 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies primers;
- (b) 3.5 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies topcoats (including self-priming topcoats). For general aviation rework facilities, the VOC limit shall be 4.5 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies topcoats (including self-priming topcoats); and
- (c) Each owner or operator shall not apply specialty coatings with a VOC content in excess of the amounts specified in EPA-453/R-97-004, December 1997, page B-2, hereby incorporated by reference or shall use an add-on control device as specified in R307-355-9.

(2) The following coating applications are exempt from the VOC content limits in R307-355-5(1):

- (a) Touchup and repair operations.
- (b) Use of hand-held spray can application method.
- ~~(c) Department of Defense classified coatings.~~
- ~~(d) Coatings of space vehicles.~~

R307-355-6. Application Method.

(1) No owner or operator shall apply any primer or topcoat unless the primer and topcoat is applied with equipment operated according to the equipment manufacturer specifications or by the use of one of the following methods:

- (a) Electrostatic application;
- (b) Flow/curtain coat;
- (c) Dip/electrodeposition coat;
- (d) Roll coat;
- (e) Brush coating;
- (f) Cotton-tipped swab application;
- (g) High-Volume, Low-Pressure (HVLP) Spray;
- (h) Hand Application Methods; or
- (i) Other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods, as determined according to the requirements in 40 CFR 63.750(i)

- (2) The following conditions are exempt from R307-355-6(1);
- (a) Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces.
 - (b) The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that cannot be applied by any of the application methods specified in R307-355-6.
 - (c) The application of coatings that normally have dried film thickness of less than 0.0013 centimeters (0.0005 inches) and that cannot be applied by any of the application methods specified in R307-355-6.
 - (d) The use of airbrush application methods for stenciling, lettering, and other identification markings.
 - (e) Touchup and repair operations.
 - (f) Use of hand-held spray can application method.

R307-355-7. Work Practices and Recordkeeping.

(1) Control techniques and work practices shall be implemented at all times to reduce VOC emissions from fugitive type sources. Control techniques and work practices shall include, but are not limited to:

- (a) Storing all VOC-containing coatings, adhesives, thinners, and coating-related waste materials in closed containers;
- (b) Ensuring that mixing and storage containers used for VOC-containing coatings, adhesives, thinners, and coating-related waste material are kept closed at all times except when depositing or removing these materials;
- (c) Minimizing spills of VOC-containing coatings, adhesives, thinners, and coating-related waste materials; and
- (d) Conveying VOC-containing coatings, adhesives, thinners, and coating-related waste materials from one location to another in closed container or pipes.

~~(2) The work practices for cleaning materials shall be implemented at all times to reduce VOC emissions from fugitive type sources. The work practices shall include, but are not limited to:~~

- ~~(a) Storing all VOC containing cleaning materials in closed containers;~~
- ~~(b) Ensuring that storage containers used for VOC containing cleaning materials are kept closed at all times except when depositing or removing these materials;~~
- ~~(c) Minimizing spills of VOC containing cleaning materials;~~
- ~~(d) Conveying VOC containing cleaning materials from one location to another in closed container or pipes.~~

(23) The owner or operator shall maintain records from the manufacturer that demonstrate compliance with the emission standards of R307-355-5.

(4) The owner or operator shall maintain records of coatings listed in Table 1 EPA-453/R-97-004, December 1997, Table 4-1, hereby incorporated by reference with coating usage on an annual basis.

(5) The owner or operator shall maintain records of cleaning solvents used on an annual basis.

R307-355-8. Solvent Cleaning.

(1) Hand-wipe cleaning. Cleaning solvents used in hand-wipe cleaning operations shall meet one of the following requirements: ~~have a~~

(a) VOC composite vapor pressure less than or equal to 45 mm Hg or less at 68 degrees Fahrenheit;

~~or~~ (b) an aqueous cleaning solvent in which water is at least 80% of the solvent as applied;

~~or~~ (c) hydrocarbon-based solvents which are cleaners that are composed of photochemically reactive hydrocarbons and/ oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 deg C (3.75 in. H2O and 68 deg F) (These cleaners also contain no HAP); or

(d) demonstrate that the volume of hand-wipe solvents used in cleaning operations has been reduced by at least 60% from a baseline adjusted for production (baseline shall be established as part of an approved alternative plan administered by the Utah Division of Air Quality Director).

(2) The following cleaning operations are exempt from the cleaning solvent composition and vapor pressure requirements for hand-wipe cleaning specified in R307-355-8(1):

(a) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

(b) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, hydrazine);
(c) Cleaning and surface activation prior to adhesive bonding;
(d) Cleaning of electronics and assemblies containing electronics;
(e) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;
(f) Cleaning of fuel cells, fuel tanks, and confined spaces;
(g) Surface cleaning of solar cells, coated optics, and thermal control surfaces;
(h) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used on the interior of the aircraft;
(i) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;
(j) Cleaning of aircraft transparencies, polycarbonates, or glass substrates;
(k) Cleaning and cleaning solvent usage associated with research and development, quality control, or laboratory testing;
(l) Cleaning operations, using nonflammable liquids, conducted within 5 feet of energized electrical systems. Energized electrical systems means any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells, and tail sections; and
(m) Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR § 82.4.

(3) Flush cleaning. Cleaning solvents used in flush cleaning of parts, assemblies and coating unit components must be emptied into an enclosed container or collection system that is kept closed when not in use.

(4) Spray gun cleaning. All spray guns shall be cleaned by one or more of the following methods:

(a) Enclosed system that is closed at all times except when inserting or removing the spray gun. If leaks in the system are found, repairs shall be made as soon as practicable, but no later than ~~48 hours~~ 1415 days after the leak was found. If the leak is not repaired by ~~the 48 hours~~ 15th days after detection, the cleaning solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(b) Nonatomized cleaning.

(i) Spray guns shall be cleaned by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place.

(ii) No atomizing air is to be used.

(iii) The cleaning solvent from the spray gun shall be directed into a vat, drum, or other waste container that is closed when not in use.

(c) Disassembled spray gun cleaning.

(i) Spray guns shall be cleaned by disassembling and cleaning the components by hand in a vat, which shall remain closed at all times except when in use.

(ii) Spray gun components shall be soaked in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

(d) Atomizing spray into a waste container that is fitted with a device designed to capture atomized solvent emissions.

(e) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems that can be programmed to spray into a closed container, shall be exempt from these requirements.

R307-355-9. Optional Add-On Controls.

(1) The owner or operator may install and maintain an incinerator, carbon adsorption, or any other add-on emission control device, provided that the emission control device will attain at least 9581% efficiency performance.

(2) The owner or operator of a control device shall provide certification from the manufacturer that the emission control system will attain required efficiency performance.

(3) Emission control systems shall be operated and maintained in accordance with the manufacturer recommendations. The owner or operator shall maintain for a minimum of two years records of operating and maintenance sufficient to demonstrate that the equipment is being operated and maintained in accordance with the manufacturer recommendations.

R307-355-10. Compliance Schedule.

All sources within Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties shall be in compliance by January 1, 2014.

KEY: aerospace, air pollution, ~~deg~~reasing, coating, solvent cleaning

Date of Enactment or Last Substantive Amendment: 2012

Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)